

1.0 INTRODUCTION

This is the last in a series of three preseason reports prepared by the Pacific Fishery Management Council's (Council) Salmon Technical Team (STT) and staff. The reports document and help guide salmon fishery management in the exclusive economic zone (EEZ) from 3 to 200 nautical miles off the coasts of Washington, Oregon, and California, and within state territorial waters. This report summarizes the STT analysis of the 2009 ocean salmon fishery management measures adopted by the Council for submission to the U.S. Secretary of Commerce. This report is analogous to a description and analysis of a preferred alternative in a National Environmental Policy Act (NEPA) analysis. Together with the other preseason reports and the Review of 2008 Ocean Salmon Fisheries, this report serves as the basis for a NEPA analysis addressing the 2009 ocean salmon management measures.

The Council's recommendations for the 2009 ocean salmon fishery regulations meet or exceed the obligations under the Pacific Salmon Treaty (PST) (Section 5), the level of protection required by all consultation standards for salmon species listed under the ESA (Section 4), and all objectives of the Pacific Coast Salmon Plan (Salmon FMP) (Section 3) except for the spawning escapement objectives for Skagit, Stillaguamish, and Snohomish natural coho; however, the FMP allows annual management objectives that diverge from the FMP objectives if agreed to by the Parties of the *U.S. v. Washington* court case, as occurred in 2009.

2.0 SELECTION OF FINAL MANAGEMENT MEASURES

The following figures and tables describe the 2009 Council-adopted management measures:

- Table 1-Non-Indian commercial ocean salmon management measures, pages 15-18;
- Figure 1-Geographic outline of commercial troll (non-Indian) ocean salmon seasons, page 19;
- Table 2-Recreational ocean salmon management measures, pages 20-23;
- Figure 2-Geographic outline of recreational ocean salmon seasons, page 24;
- Table 3-Treaty Indian commercial ocean management measures, page 25; and
- Table 4-Allowable catch quotas for Chinook and coho, page 26.

In addition, Tables 5, 6, and 7 provide information on the biological impacts and landing estimates for the Council's management recommendations. Table 8 displays the expected mark (healed adipose fin clip) rate for coho encountered in mark-selective fisheries. Tables 9 and 10, and Figures 3 and 4, provide information on the economic impacts of the proposed fisheries.

The 2009 seasons are constrained primarily by: (1) Sacramento River fall Chinook (SRFC) south of Cape Falcon, (2) threatened lower Columbia River (LCR) natural tulle fall Chinook north of Cape Falcon, (3) threatened Lower Columbia natural (LCN) coho north of the Oregon/California border, and (4) Upper Fraser (Thompson River) coho north of Cape Falcon. Coho retention fisheries operate under restrictions that permit retention only of marked coho, except for treaty Indian ocean fisheries and commercial fisheries south of Cape Falcon.

Regulations and expected fishing patterns for the treaty Indian ocean fisheries were developed by the Hoh, S'Klallam, Makah, Quileute, and Quinault tribes for their respective fisheries.

2.1 *Inseason Management*

Inseason changes are made to meet the preseason intent of the management measures described in this document, but must also meet the Council's Salmon fishery management plan (FMP) goals, especially in regard to conservation and allocation goals, Federally-recognized Indian fishing rights, consultation standards for Endangered Species Act (ESA)-listed salmon stocks, and obligations under the Pacific Salmon Treaty (PST).

Inseason actions that are anticipated for the 2009-2010 management season include, but are not limited to, the following possibilities:

1. Adjustments in landing limits and days open for non-Indian commercial fisheries.
2. Changing the days or number of days of fishing allowed per calendar week for recreational fisheries.
3. Transfer of coho quotas among recreational port areas north of Cape Falcon.
4. Trading portions of Chinook and coho quotas between recreational and non-Indian commercial sectors north of Cape Falcon.
5. Transfer of coho quota from the June to August recreational fishery south of Cape Falcon to the September commercial fishery south of Cape Falcon.
6. Transfer of coho quota from the June to August recreational fishery south of Cape Falcon to the September recreational fishery south of Cape Falcon.
7. Routine openings and closings, and other management measures associated with quota management, including modifying open areas, bag limits, species retention limits, and mark retention restrictions.
8. Closing Oregon recreational and commercial fisheries scheduled to open between March 15 and April 30, 2010 if necessary to meet 2010 management objectives.
9. Closing California recreational fisheries scheduled to open April 3, 2010 if necessary to meet 2010 management objectives.

Inseason action will generally be accomplished through National Marine Fisheries Service (NMFS)-sponsored conference calls attended by representatives of affected state and tribal management agencies, the Council, the Salmon Advisory Subpanel (SAS), and the STT. The Council may also make recommendations for inseason actions at any of its regularly scheduled meetings.

2.2 State Waters Fisheries

In addition to the seasons shown in Tables 1 and 2, the Oregon Department of Fish and Wildlife (ODFW) may permit fall fisheries in certain areas within state waters. Potential seasons off the Oregon coast include commercial and recreational fisheries at the mouths of the Chetco and Elk Rivers and at the mouth of Tillamook Bay. Council intent generally advocates that state-water fisheries have the same basic regulations as adjacent Federal waters, particularly if open simultaneously; however, the Oregon State-water recreational fishery off Tillamook Bay may allow the use of barbed hooks to be consistent with inside regulations.

Washington may also establish limited recreational fisheries in state waters if additional impacts on critical coho and/or Chinook stocks can be accommodated within management constraints. California will not establish any state water fisheries in 2009 due to the current status of SRFC.

3.0 SALMON FISHERY MANAGEMENT PLAN REQUIREMENTS

The Council's Salmon FMP includes objectives for setting annual management measures to regulate ocean salmon fisheries between the U.S./Canada border and the U.S./Mexico border. The objectives include biological, administrative, and allocation requirements. In recommending final management measures, the Council attempts to meet all objectives in a fair and balanced manner, while maintaining established priorities.

Biological objectives for stocks originating in the Council area or impacted by Council area ocean fisheries are listed in Table 3-1 of the Salmon FMP. The objectives generally consist of meeting spawning escapement numbers associated with maximum sustainable yield (MSY), or exploitation rate

limits designed to support recovery of depressed stocks while encompassing a long term average harvest approximating MSY.

Biological objectives can be modified through formal plan amendment, technical amendment, or regulatory amendment. For the 2009 management measures, an additional management objective for Klamath River fall Chinook (KRFC) has been proposed for implementation by regulatory amendment. The current KRFC conservation objective requires a spawner reduction rate of no more than 67 percent and a minimum of 35,000 adults spawning in natural areas. The proposed regulatory amendment would require a minimum natural area spawning escapement of 40,700 adult KRFC as a preseason management objective in 2009 and 2010, and possibly beyond. This proposal resulted from a rebuilding plan adopted by the Council after KRFC triggered an Overfishing Concern by failing to meet the 35,000 natural area adult spawner objective in 2004, 2005, and 2006.

Administrative objectives are requirements for meeting other applicable law outside of the Salmon FMP. These requirements include ESA consultation standards, international treaties, and tribal trust responsibilities. The Salmon FMP defers to NMFS consultation standards for salmon stocks listed under the ESA in regards to biological conservation objectives. The Council considers the ESA requirements sufficient to meet the intent of FMP conservation objectives for the annual management measures as well as the Magnuson-Stevens Act (MSA) overfishing provisions requiring rebuilding of depressed stocks to MSY levels. Section 4.0 of this document provides greater detail on ESA listed stocks, while impacts of the Council adopted salmon management measures on ESA listed stocks are included in Table 5.

The Salmon FMP requires compliance with relevant terms of the PST. Section 5.0 of this document provides greater detail on PST provisions and stocks, while impacts of the Council adopted salmon management measures on those stocks are included in Table 5.

Treaty trust responsibilities of the Salmon FMP require the Council to abide by Court orders in the *U.S. v. Washington* (Puget Sound), *Hoh v. Baldrige* (Washington coast), and *U.S. v. Oregon* (Columbia River) cases, and the Solicitor General opinion (Klamath River) governing allocation and management of shared salmon resources. Much of the North of Falcon forum is dedicated to annual negotiations establishing allocation among the tribes, non-Indian fishing sectors, and ocean and inside interests. The results of these negotiations allow the Council to complete final management measure recommendations while meeting its biological, administrative, and allocation objectives. Among the annual agreements reached by the co-managers in the North of Falcon forum are conservation objectives for Puget Sound and Washington coastal stocks. These objectives can supersede the Salmon FMP conservation objectives for annual management measures and for Council action when a Conservation Alert is triggered; however, they cannot be used in place of the FMP objectives for determination of an Overfishing Concern; nor can they supersede ESA consultation standards. In recent years, the annual agreed to conservation objectives for Puget Sound and Washington coastal coho have been based on the comprehensive coho agreement.

The Columbia River treaty tribes establish periodic management agreements with the state co-managers and Federal agencies. These agreements are approved pursuant to provisions of *U.S. v. Oregon* procedures. Recent agreements have included an entitlement for the treaty tribes of 50 percent of the coho return destined for areas upstream from Bonneville Dam. Council area fisheries are shaped in order to meet this requirement in some years.

The Yurok and Hoopa Valley tribes are entitled to up to 50 percent of the harvest of KRFC, which is calculated as a harvest of KRFC equal to that taken in all non-Indian fisheries. The Council must account for all harvest impacts when assessing the achievement of KRFC conservation objectives.

In addition to the allocation objectives associated with sharing between treaty Indian and non-Indian sectors, the Salmon FMP includes formulas for sharing Chinook and coho quotas north of Cape Falcon between commercial and recreational sectors, and among recreational port areas, and for coho south of Cape Falcon between commercial and recreational sectors. The 2009 salmon management measures adopted by the Council meet the allocation requirements for fisheries north of Cape Falcon in the Salmon FMP. The allocation provisions for the area south of Cape Falcon are also met. The available coho impacts are less than the minimum required for distribution of directed harvest to the commercial sector; however, the Salmon FMP allows flexibility to provide some directed harvest to the commercial sector during the annual preseason process.

4.0 SPECIES LISTED UNDER THE ENDANGERED SPECIES ACT

Since 1989, NMFS listed the following 17 Evolutionarily Significant Units (ESUs) of salmon under the ESA:

Species	ESU	Status	Federal Register Notice
Chinook Salmon (<i>O. tshawytscha</i>)	Sacramento River Winter	Endangered	70 FR 37160 6/28/05
	Snake River Fall	Threatened	70 FR 37160 6/28/05
	Snake River Spring/Summer	Threatened	70 FR 37160 6/28/05
	Puget Sound	Threatened	70 FR 37160 6/28/05
	Lower Columbia River	Threatened	70 FR 37160 6/28/05
	Upper Willamette River	Threatened	70 FR 37160 6/28/05
	Upper Columbia River Spring	Endangered	70 FR 37160 6/28/05
	Central Valley Spring	Threatened	70 FR 37160 6/28/05
	California Coastal	Threatened	70 FR 37160 6/28/05
Chum Salmon (<i>O. keta</i>)	Hood Canal Summer-Run	Threatened	70 FR 37160 6/28/05
	Columbia River	Threatened	70 FR 37160 6/28/05
Coho Salmon (<i>O. kisutch</i>)	Central California Coast	Endangered	70 FR 37160 6/28/05
	S. Oregon/ N. California Coastal	Threatened	70 FR 37160 6/28/05
	Oregon Coastal	Threatened	73 FR 7816 2/11/08
	Lower Columbia River	Threatened	70 FR 37160 6/28/05
Sockeye Salmon (<i>O. nerka</i>)	Snake River	Endangered	70 FR 37160 6/28/05
	Ozette Lake	Threatened	70 FR 37160 6/28/05

As the listings have occurred, NMFS has initiated formal consultations and issued biological opinions (BOs) that consider the impacts resulting from implementation of the Salmon FMP, or from annual management measures, to listed salmonid species. NMFS has also reinitiated consultation on certain ESUs when new information has become available on the status of the stocks or on the impacts of the Salmon FMP on the stocks. The consultation standards referred to in this document include (1) reasonable and prudent alternatives, (2) conservation objectives for which NMFS conducted Section 7 consultations and arrived at a no-jeopardy conclusion, and (3) NMFS requirements under Section 4(d) determinations. A list of current BOs in effect, the species they apply to, and their duration follows:

Date	Evolutionarily Significant Unit covered and effective period
March 8, 1996	Snake River Chinook and sockeye (until reinitiated)
April 28, 1999	Oregon Coastal natural coho, Southern Oregon/ Northern California coastal coho, Central California coastal coho (until reinitiated)
April 28, 2000	Central Valley spring Chinook (until reinitiated)
April 27, 2001	Hood Canal summer chum 4(d) limit (until reinitiated)
April 30, 2001	Upper Willamette Chinook, Upper Columbia spring Chinook, Lake Ozette sockeye, ten steelhead ESUs and Columbia River chum (until reinitiated)
April 27, 2004	Sacramento River winter Chinook (April 30, 2010)
March 4, 2005	Puget Sound Chinook (April 30, 2010)
June 13, 2005	California coastal Chinook (until reinitiated)
Expected Prior to May 1, 2009	Lower Columbia River natural coho, Lower Columbia River Chinook

Amendment 12 to the Salmon FMP added the generic category “species listed under the ESA” to the list of stocks in the salmon management unit and modified respective escapement goals to include “manage consistent with NMFS jeopardy standards or recovery plans to meet immediate conservation needs and long-term recovery of the species”. Amendment 14 specified those listed ESUs and clarified which stocks in the FMP management unit were representative of the ESUs.

NMFS, in a letter received by the Council on March 3, 2009, provided guidance on protective measures for species listed under the ESA during the 2009 fishing season. The letter summarized the requirements of NMFS’ BOs on the effects of potential actions under the salmon FMP on listed salmon and provided the anticipated consultation standards of the BOs in preparation for the 2009 management season, as well as further guidance and recommendations for the 2009 management season.

The ESA consultation standards, exploitation rates, and other criteria in place for the 2009 management season are presented in Table 5. Some listed stocks are either rarely caught in Council fisheries (e.g., spring Chinook from the upper Columbia River) or already receive sufficient protection from other salmon FMP and ESA standards (e.g., Central Valley spring Chinook). NMFS has determined that management actions designed to limit catch from these ESUs, beyond what will be provided by harvest constraints for other stocks, are not necessary.

Of the listed Chinook and coho, Council-managed fisheries have a significant impact on Sacramento River winter Chinook, Central Valley spring Chinook, California Coastal Chinook, Snake River wild (SRW) fall Chinook, lower Columbia River (LCR) fall Chinook, and all of the coho stocks. Additional listed salmonid ESUs found within the Council area, but not significantly impacted by Council managed fisheries, include:

Chinook

- | | |
|--|--|
| Snake River spring/summer (threatened) | Puget Sound (threatened) |
| Upper Willamette (threatened) | Upper Columbia River spring (endangered) |

Sockeye

- | | |
|--------------------------|----------------------------------|
| Snake River (endangered) | Ozette Lake Sockeye (threatened) |
|--------------------------|----------------------------------|

Chum

- | | |
|-----------------------------|--------------------------------|
| Columbia River (threatened) | Hood Canal summer (threatened) |
|-----------------------------|--------------------------------|

Steelhead

Southern California (endangered)	Central Valley, California (threatened)
South-central California coast (threatened)	Central California coast (threatened)
Upper Columbia River (endangered)	Upper Willamette River (threatened)
Middle Columbia River (threatened)	Lower Columbia River (threatened)
Snake River Basin (threatened)	Northern California (threatened)

5.0 OBLIGATIONS UNDER THE PACIFIC SALMON TREATY

5.1 Chinook Salmon Management

A new agreement under the Pacific Salmon Treaty was negotiated in 2008 and formally accepted by both the U.S. and Canada in December of 2008. This new agreement took effect on January 1, 2009, and includes a 30 percent reduction in the catch ceilings for aggregate abundance based management (AABM) fisheries off the West Coast Vancouver Island and in Northern British Columbia, and a 15 percent reduction in the catch ceilings for AABM fisheries in Southeast Alaska relative to the catch ceilings in effect for these fisheries since 1999. Under the terms of the 2008 agreement, Council fisheries for Chinook salmon continue to be subject to the individual stock based management (ISBM) provisions of Annex 4, Chapter 3, adopted in 1999. These provisions require the AEQ exploitation rate by all U.S. fisheries south of the U.S./Canada border be reduced by 40 percent from the 1979-1982 base period for Chinook stocks failing to achieve escapement goals adopted by the Pacific Salmon Commission (PSC).

Many Chinook stocks of concern to the Council are affected by fisheries off Canada and Alaska. Maximum allowable catches by aggregate abundance based management (AABM) fishery complexes off the WCVI, Northern British Columbia, and Southeast Alaska are determined through the annual calibration of the PSC Chinook Model. Canadian fisheries that are not included in AABM complexes are managed under ISBM constraints which require a 36.5 percent reduction in AEQ exploitation rates relative to the 1979-1982 base period on Chinook stocks that are not expected to achieve agreed MSY spawning escapement goals. Expectations for Canadian and Alaskan fisheries harvest and stock abundance forecasts are incorporated into Chinook FRAM to estimate total exploitation rate impacts from all marine fisheries (Table 5).

Key considerations for Canadian domestic fishery management for Chinook in 2009 include, (1) meeting domestic conservation obligations for WCVI, Strait of Georgia, and Fraser River stocks; (2) Chinook harvests by native fisheries; and (3) incidental impacts during commercial and native fisheries directed at pink (odd years), sockeye and chum salmon. It is anticipated that the details of the fishery regulatory package off WCVI will be driven by levels of allowable impact on WCVI, Lower Strait of Georgia, and Fraser River Chinook and Interior Fraser (Thompson River) coho.

5.2 Coho Salmon Management

In 2002, the PSC adopted a management plan for coho salmon originating in Washington and Southern British Columbia river systems. The plan is directed at the conservation of key management units, four from Southern British Columbia (Interior Fraser, Lower Fraser, Strait of Georgia Mainland, and Strait of Georgia Vancouver Island) and nine from Washington (Skagit, Stillaguamish, Snohomish, Hood Canal, Strait of Juan de Fuca, Quillayute, Hoh, Queets, and Grays Harbor). Exploitation rate limits for intercepting fisheries are established for individual management units through formulas specified in the 2002 PSC Coho Plan, and are based on total allowable fishery exploitation rates. Based on preseason abundance forecasts, total allowable exploitation rates for U.S. management units in 2009 are summarized in the table below.

The categorical status of U.S. coho management units is reported to comply with obligations pursuant to the 2002 PSC Southern Coho Agreement. Categorical status is employed by the PST under the 2002 Coho Agreement to indicate general ranges of allowable total exploitation rates for U.S. and Canadian coho management units. Three categories are employed: low (total exploitation rate less than 20 percent), moderate (total exploitation rate 20 percent to 40 percent), and abundant (total exploitation rate greater than 40 percent). For the Puget Sound management units, the 2002 Coho Agreement uses the thresholds and stepped harvest rate goals from the Comprehensive Coho management plan, developed by Washington and the Puget Sound tribes. Actual exploitation rate constraints for Canadian fisheries on U.S. coho management units are determined by formulas that specify sharing of allowable exploitation rates and a “composite rule.” The composite rule adjusts constraints for Canadian fishery exploitation rates based on the number of U.S. management units which fall in a given category. For example, if only one Washington coastal coho management unit is in low status, Canadian fisheries are constrained to a total exploitation rate on that unit of 12 percent; if two or more Washington coastal management units are in low status, the constraint becomes 10 percent. The minimum allowable exploitation rate by Canadian fisheries on U.S. coho management units is 10 percent.

Some confusion may arise from the methods employed to report the categorical status for Washington coastal coho management units. For these units, a range is reported for the allowable exploitation rates based on the relationship between the pre-season abundance forecast and the upper and lower values of the spawning escapement ranges corresponding to MSY production. Maximum exploitation rates are computed using the lower end of the escapement range and minimum exploitation rates are computed using the upper end of the escapement range. For purposes of reporting the categorical status, an allowable exploitation rate is computed using the mid-point of the MSY escapement range.

U.S. Management Unit	Total Exploitation Rate Constraint ^{a/}	Categorical Status ^{b/}
Skagit	35%	Moderate
Stillaguamish	35%	Moderate
Snohomish	40%	Moderate
Hood Canal	65%	Abundant
Strait of Juan de Fuca	40%	Moderate
Quillayute Fall ^{c/}	18%-67% (43%)	Abundant
Hoh ^{c/}	47%-79% (63%)	Abundant
Queets ^{c/}	54%-82% (68%)	Abundant
Grays Harbor	40%	Abundant

a/ Preliminary, total mortality exploitation rate ceilings. Constraints will ultimately be determined through preseason planning processes. For Puget Sound management units, the exploitation rate constraints reflect application of draft Comprehensive Coho rules. For the Quillayute, Hoh, and Queets management units, exploitation rate constraints represent the potential range associated with escapement goal ranges (the values in parentheses reflect the exploitation rate associated with the mid-point of the spawning escapement goal range).

b/ Category titles correspond to the general exploitation rate ranges depicted in paragraph 3(a) of the 2002 PSC Coho Agreement or the exploitation rate status determinations exchanged during the negotiations that culminated in the 2002 Agreement. For Puget Sound management units, the categorical status categories reflect application of draft Comprehensive Coho rules. No formal status classification system has yet been developed for Washington coastal management units; the categorical status levels are based on exploitation rate values depicted in parentheses.

c/ For Washington Coastal coho management units, spawning escapement ranges correspond to estimates for MSY escapements. The exploitation rate ranges for these management units are based on preseason abundance forecasts and the upper and lower ends of the ranges. Maximum exploitation rates are computed using the lower end of the escapement range; minimum exploitation rates are computed using the upper end of the escapement range. The categorical status is determined based on the mid-point of the escapement range. Note that the exploitation rates used to report categorical status do not represent maximum allowable rates for the management units.

Key considerations for Canadian fishery management for coho in 2009 are expected to include, (1) meeting domestic conservation obligations for Interior Fraser (including Thompson River) coho; (2) coho harvests by native fisheries; (3) incidental impacts during commercial and native fisheries directed at Chinook, sockeye, pink, and chum salmon; and (4) the desire to provide increased opportunity for sport

fisheries through mark-selective retention regulations. The Canadian fishery regimes affecting coho will be driven by Canadian domestic allowable impacts on the Thompson River component of the Interior Fraser management unit (in previous years, Canadian fisheries were managed so as not to exceed a 3 percent maximum exploitation rate).

The status of Canadian coho management units in 2009 indicates continuing concerns for the condition of Interior Fraser coho. The Interior Fraser coho management unit remains in *low* status, resulting in a requirement to constrain the total mortality fishery exploitation rate for all 2009 U.S. fisheries to a maximum of 10.0 percent.

6.0 CHINOOK SALMON MANAGEMENT

6.1 South of Cape Falcon

The 2009 abundance projections relevant to Chinook harvest management south of Cape Falcon are:

- *SRFC*. The Sacramento Index (SI) forecast is 122,200 SRFC adults. When compared to post-season estimated values of the SI, the forecast value is ranked the second lowest, with only the 2008 value being lower.
- *KRFC*. The age-3 forecast is 474,900 fish, which is above average. In contrast, the age-4 forecast of 25,200 is the lowest on record. The age-5 forecast is 5,600 fish. The 2008 preseason forecast was 31,600 age-3, 157,200 age-4, and 1,900 age-5 fish.
- *Oregon Coastal Chinook*. Quantitative abundance predictions are not made for these stocks for use in annual development of Council area fishery regulations. Qualitative expectations of abundance are based on parental year spawner escapements and hatchery indicator stock data used in the PSC management process.

6.1.1 Objectives

Key Chinook salmon management objectives shaping the options south of Cape Falcon are:

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 4.0 above. Relevant stocks for the area south of Cape Falcon include Sacramento River winter Chinook, California Coastal Chinook, SRW fall Chinook, and LCR natural tule Chinook.
- *SRFC*. Hatchery and natural-area spawner escapement goal of 122,000 to 180,000 adults (FMP conservation objective).
- *KRFC*. Natural area spawning escapement of at least 40,700 adults (2009 Council guidance), a spawner reduction rate not to exceed 66.7 percent (FMP conservation objective), and 50:50 tribal:non-tribal sharing of adult harvest (Department of Interior Solicitor Opinion).
- *Oregon Coastal Chinook*. An escapement of 150,000 to 200,000 naturally spawning adults represented by 60-90 naturally spawning adults per mile in nine standard index streams (FMP conservation objective). These stocks are also subject to terms of the PST general obligation for ISBM fisheries, requiring a 40% reduction in impacts relative to the 1979-82 base period for stocks not meeting agreed to escapement goals.

6.1.2 Achievement of Objectives

Fishery quotas under the adopted management measures are presented in Table 4. Stock-specific management criteria and their forecast values are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCR tule Chinook.

- *SRFC*. The SRFC conservation objective of 122,000 to 180,000 adult spawners is met by the adopted management measures. The SRFC adult spawner escapement forecast assumes that zero SRFC will be harvested by a potential Sacramento River Chinook recreational fishery. Available data suggest that an upper Sacramento River fishery between Knights Landing and Red Bluff Diversion Dam (targeting Sacramento River late-fall run Chinook) commencing on or after November 16 would have negligible SRFC impacts. At the time of publication, it is expected that the California Fish and Game Commission will not adopt an inriver fishery beginning earlier than November 16, 2009.
- *Oregon Coastal Chinook*. Council-area fisheries have a minor impact on mid- and north-Oregon coastal Chinook stocks and negligible impacts on most Chinook stocks subject to the 1999 PST Agreement. The adopted management measures are not expected to affect compliance with FMP conservation objective for these stocks, which is unlikely to be met in 2009. The adopted management measures, combined with freshwater fishery management measures implemented by ODFW, are expected to achieve compliance with PSC ISBM indices for Nehalem, Siletz, and Siuslaw fall Chinook. The adopted management measures will minimize Council area fishery impacts to SRFC and south-Oregon coastal Chinook.

The adopted management measures for Chinook fisheries south of Cape Falcon satisfy NMFS ESA consultation standards and guidance, FMP conservation objectives, and all other objectives for other relevant stocks listed in Table 5. Compliance for the Oregon coastal Chinook conservation objective will be evaluated postseason as indicated in the FMP.

6.2 North of Cape Falcon

Abundance projections relevant to Chinook harvest management north of Cape Falcon are:

- *Columbia River hatchery tules*. Combined production of Lower River Hatchery (LRH) and Spring Creek Hatchery (SCH) stocks is predicted to be nearly equal to the 2008 preseason expectations. The 2009 LRH forecast abundance is 88,800, up from 59,000 in 2008. The 2009 SCH forecast abundance is 59,300, which is down from the 87,200 forecast in 2008.

6.2.1 Objectives

The key Chinook salmon management objectives shaping the adopted management measures north of Cape Falcon were:

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 4.0 above. Relevant stocks for the area north of Cape Falcon include Columbia Lower River wild (LRW) fall Chinook, LCR natural tule Chinook, SRW fall Chinook, and Puget Sound natural Chinook.
- *Puget Sound Chinook*. Fishery impacts on Puget Sound Chinook are managed in accordance with a Resource Management Plan (RMP) developed by Washington Department of Fish and Wildlife (WDFW) and Puget Sound Treaty Tribes, and approved by NMFS under Limit 6 of section 4(d) of the ESA. The RMP prescribes allowable fishery impacts depending on individual stock status

(NMFS ESA guidance). These stocks are also subject to the PST general obligation for ISBM fisheries.

6.2.2 Achievement of Objectives

Fishery quotas under the adopted management measures are presented in Table 4. Stock-specific management criteria and their forecast values are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCR tule Chinook.

- *LCR natural tule fall Chinook.* The adopted management measures result in an exploitation rate below the 38.0 percent consultation standard maximum. LCR tules are the constraining Chinook stock for fisheries north of Cape Falcon in 2009.
- *SRW fall Chinook.* Because LCR tules are much more constraining than SRW fall Chinook this year, SRW Chinook will not constrain ocean fisheries north of Cape Falcon in 2009.
- *Puget Sound Chinook.* The adopted management measures are expected to achieve compliance with NMFS consultation standards for the Puget Sound Chinook ESU, and the PST general obligation for ISBM fisheries.

The adopted management measures for Chinook fisheries north of Cape Falcon satisfy NMFS ESA consultation standards and guidance, FMP conservation objectives, and all other objectives for other relevant stocks listed in Table 5.

7.0 COHO SALMON MANAGEMENT

Abundance projections relevant to coho harvest management in Council area fisheries:

- *Oregon Coastal Natural (OCN) coho.* The OCN forecast of 211,600 is more than three times the 2008 preseason forecast of 60,000.
- *Oregon Production Index (OPI) Hatchery coho.* The 2009 forecast for hatchery coho from the Columbia River and the coast south of Cape Falcon of 1,073,100 is much larger than the 2008 forecast of 216,100. The Columbia River early coho forecast is 672,700 compared to the 2008 forecast of 110,300 and the Columbia River late coho forecast is 369,700 compared to the 2008 forecast of 86,400.
- *Lower Columbia River Natural (LCN) coho.* The 2009 LCN forecast is 32,700 adults returning to the mouth of the Columbia River, compared to a forecast of 13,400 in 2008.
- *Puget Sound coho.* The forecast for Skagit, Stillaguamish and Snohomish coho are below the FMP conservation objective, assuming fisheries similar to 2008. However these stocks, along with other Puget Sound natural coho stocks, are subject to the provisions of the 2002 PSC coho agreement and the comprehensive coho agreement, which permits harvest at specified rates based on annual stock status classification.
- *Interior Fraser (Thompson River) coho.* This Canadian stock continues to be depressed, remaining in the low status category under the PST and, along with LCN coho, is the coho stock most limiting the 2009 ocean fisheries north of Cape Falcon.

7.1 Objectives

Key coho salmon management objectives shaping the adopted management measures were:

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 4.0 above. Relevant stocks include Central California Coast coho (south of the Oregon/California border), Southern Oregon/Northern California Coastal (SONCC) coho, OCN coho, and LCN coho. Based on this guidance, the maximum allowable exploitation rates are: a combined marine/freshwater exploitation rate not to exceed 15.0 percent for OCN coho, a combined exploitation rate in marine and mainstem Columbia River fisheries not to exceed 20.0 percent for LCN coho, and a marine exploitation rate not to exceed 13.0 percent for Rogue/Klamath (RK) hatchery coho, used as a surrogate for the SONCC coho ESU.
- Terms and requirements of the 2002 PSC coho agreement for stocks originating along the Washington coast, Puget Sound, and British Columbia as provided in Section 5.2 above. Relevant stocks for the area north of Cape Falcon in 2009 include Skagit, Stillaguamish, Snohomish, and Upper Fraser coho.
- Terms of the Comprehensive Coho Agreement for Puget Sound and Washington Coastal coho. This agreement by the parties to *U.S. v. Washington* allows for annual management objectives other than those specified in the FMP as provided in Section 3.0 above. Relevant stocks for 2009 fisheries include Skagit, Stillaguamish, and Snohomish coho.
- Minimum escapement of 50 percent of Upper Columbia coho above Bonneville Dam (*U.S. v. Oregon* annual management agreement).
- Providing sufficient escapement of Columbia River early and late coho to meet hatchery egg take goals and inriver harvest objectives.

7.2 Achievement of Objectives

Fishery quotas under the adopted management measures are presented in Table 4. Stock-specific management criteria and their forecast values are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCN, OCN, and RK coho. Table 8 provides expected coho mark rates for west coast fisheries by month.

- *LCN coho.* The adopted management measures satisfy the maximum 20.0 percent exploitation rate with a marine exploitation rate of 12.5 percent and a Columbia River mainstem exploitation rate of 7.5 percent.
- *Skagit, Stillaguamish and Snohomish coho.* Under the adopted management measures, all these stocks are below their exploitation rate ceilings established in the 2002 PSC agreement and the Comprehensive Coho Agreement. The spawner escapement goals set in the FMP are not met for these stocks; however, the FMP goal is not a constraint in 2009, as annual management goals are allowed under the FMP if they are agreed to by the parties of *U.S. v. Washington*.
- *OCN coho.* The adopted management measures satisfy the maximum 15.0 percent total exploitation rate, with a marine exploitation rate of 9.8 percent and a freshwater exploitation rate of 3.2 percent.

- *Interior Fraser (Thompson River) coho*. The adopted management measures satisfy the maximum 10.0 percent total U.S. exploitation rate, with a marine exploitation rate of 9.8 percent in U.S. fisheries.

The adopted management measures satisfy NMFS ESA consultation standards and guidance, FMP conservation objectives, and all other objectives for other relevant stocks listed in Table 5.

8.0 IMPORTANT FEATURES OF THE SEASONS

Significant changes from recent seasons are highlighted below, but this section is not intended to be a comprehensive description of the options. For detailed information on the proposed ocean salmon season options see Tables 1 (non-Indian Commercial), 2 (recreational), and 3 (Treaty Indian).

8.1 Commercial

Commercial Chinook-directed fisheries south of Cape Falcon will be closed in 2009, owing to the low forecast abundance of SRFC and Oregon coastal Chinook. However, the adopted management measures allow for some coho fishing opportunity in Oregon areas between Cape Falcon and Humbug Mountain.

From Cape Falcon to Humbug Mountain, a fall commercial coho fishery will be open from September 1 through September 30, or until the attainment of an 11,000 coho quota. This fishery has no mark-selective restrictions, but includes a landing and possession limit of 100 coho per vessel, per week. Additional coho may be transferred from the June to August recreational fishery quota on an impact neutral, fishery equivalent basis.

Due to Council-adopted rebuilding plan recommendations for KRFC and the current low abundance of SRFC, no Chinook-directed fisheries are planned for the fall of 2009 south of Cape Falcon. Fisheries at that time of year primarily intercept fish destined to return the following year, and can affect future fishing opportunity.

The adopted management measures include potential openings for commercial fisheries in the Cape Falcon to the Oregon/California border area beginning March 15, 2010. These openings may be modified by inseason action following Council review at the March 2010 meeting.

Options for the area north of Cape Falcon are generally similar in structure as seasons in recent years, although coho quotas are substantially higher, reflecting both the increased abundance of OPI hatchery coho stocks, and the more liberal 20.0 percent exploitation rate ceiling for LCN coho specified in the NMFS guidance for 2009.

A mandatory yelloweye rockfish conservation area closure was added in 2007 to the permanent salmon regulations (50 CFR 660.405) as part of NMFS regulations to implement Amendment 16-4 to the Groundfish FMP (71 FR 78638, December 29, 2006.). The closure prohibits commercial salmon trolling in Washington Marine Catch Area 3 from 48°00.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°16.50' W. long. to 48°00.00' N. lat.; 125°16.50' W. long. and connecting back to 48°00.00' N. lat.; 125°14.00' W. long. The area also overlaps part of the “C-Shaped” yelloweye rockfish conservation area (YRCA), designated as an area for salmon trollers to voluntarily avoid, which has been in place since 2003.

8.2 Recreational

For areas south of Cape Falcon, the adopted recreational ocean salmon management measures include extensive coho fishing opportunity in Oregon but very limited Chinook fishing opportunity. The only

Chinook-directed fishery, confined to the KMZ, is designed to allow some harvest on a relatively large forecast abundance of KRFC, while having a low level of impacts on SRFC and Oregon coastal Chinook.

A mark-selective coho fishery from Cape Falcon to the Oregon/California border will be open from June 20 through August 31, or until attainment of a 110,000 marked coho quota. In the region from Cape Falcon to Humbug Mountain, the bag limit will be three fish per day, while between Humbug Mountain and the Oregon/California border the bag limit will be two fish per day. Coho-directed fishing will continue in the region from Cape Falcon to Humbug Mountain from September 1 through September 30, or until the attainment of a preseason marked coho quota of 7,000 fish, with a two fish per day bag limit. Quota remaining from the June to August recreational fishery may be transferred to either the September recreational fishery or the September commercial fishery, on an impact neutral, fishery equivalent basis.

In both the Oregon and California portion of the KMZ, Chinook fishing will be allowed from August 29 through September 7, with a bag limit of two. In the Oregon portion of the KMZ, coho retention will be allowed, as specified above, during the August 29 through August 31 period if sufficient quota remains. All recreational salmon fishing will be closed in California areas south of Horse Mountain.

For Oregon, the adopted management measures include potential openings for recreational Chinook-directed fisheries in the Cape Falcon to Humbug Mountain region beginning on March 15, 2010. For California areas from Horse Mountain to the U.S./Mexico border, the adopted management measures include potential openings on April 3, 2010. Those openings may be modified by inseason action at the March 2010 Council meeting.

North of Cape Falcon, seasons are generally similar in structure to seasons in recent years, although coho quotas are substantially higher than in 2008, reflecting both the increased abundance of OPI hatchery coho stocks, and the more liberal 20.0 percent exploitation rate ceiling for LCN coho specified in the NMFS guidance for 2009.

Each of the three subareas north of Leadbetter Point are open five days per week early in the season, expanding to seven days per week later in July. The intent of the early five day per week opening is to slow Chinook catch, which is generally greatest in early July in the areas north of Leadbetter Point, and prolong the season through at least Labor Day.

There is no area 4B add on fishery for 2009 as coho quotas are sufficient to provide the Neah Bay subarea with a full summer fishery.

8.3 *Treaty Indian*

The adopted treaty Indian ocean salmon management measures are generally similar in structure as in recent years, although coho quotas are substantially higher, reflecting both the increased abundance of OPI stocks in general, and specifically the less restrictive standard for LCN coho specified in the NMFS guidance for 2009.

9.0 SOCIOECONOMIC IMPACTS OF PROPOSED OPTIONS

The short-term economic effects of the Council adopted regulations for non-Indian fisheries are shown in Tables 9 and 10. Table 9 shows troll impacts expressed in terms of estimates of potential exvessel value. Table 10 shows recreational impacts in terms of trips generated and coastal community personal income impacts associated with the recreational fishery. The exvessel values provided for the Council adopted troll fishery regulations in Table 9 and income impact values provided for the Council adopted recreational fishery regulations in Table 10 are not directly comparable. Long-term social and economic

effects are dependent mainly on the impacts of this year's harvest on future production.¹ However, repeated closures of the salmon fishery off California may have a long term effect on infrastructure that will be hard to recover or will be distributed differently when recovery occurs.

Recreational effort for the north of Cape Falcon area will likely be constrained by the Chinook quotas. To estimate total effort for this area, the 2008 Chinook catch rate per angler day from the all species fishery for each sub-area was applied to the harvest quotas for that sub-area. STT modeling results were used for the recreational effort estimates in areas south of Cape Falcon. For the commercial fishery, 2008 average prices and weights were assumed. Average prices for Chinook were at a record high level that may not be sustained in 2009 given the general downturn in the economy and the potential for some increase in harvest. To the degree these factors are a dominant influence on price, the estimates of expected revenue and personal income provided here may be somewhat high. However, while the fishery will be less constrained than last year, availability of ocean-caught salmon on a coastwide basis is still expected to be relatively low and result in higher than average prices.

Figures 3 and 4 show estimated coastal community income impacts for the Council adopted commercial troll and recreational regulations, respectively, compared to historic impacts in real (inflation adjusted) dollars. In general, income impact estimates provide information on the amount of income associated with a particular activity. Reductions in income impacts may, but do not necessarily, reflect net losses to a community but likely correlate with losses to those businesses and individuals with income dependence on the activity. Additionally, in some cases, reductions in ocean harvest may result in either greater inside fishing opportunity or spawning escapement, which may contribute to future production depending on the carrying capacity of the system to which stocks escape.

Table 9 shows projected exvessel value by catch area and Figure 3 displays estimates of income impacts by landing area. For the area north of Cape Falcon a substantial increase is projected for 2009. Revenue and income are projected to be double last year and above the most recent five year average by 46 percent. In contrast, the commercial fishery off California will remain closed in 2009, as in 2008. There will be some increase in the opportunity off of central Oregon; however, commercial fisheries south of Cape Falcon as a whole, while increasing over 2008, will be 98 percent below the most recent 5 year average. It should be noted that the recent 5-year average includes 2008, a year in which south of Cape Falcon commercial fisheries were all but completely closed.

The 2009 recreational season north of Cape Falcon will increase substantially compared to 2008, nearing its most recent five-year average (9 percent below that average). The recreational fishery off central Oregon (Cape Falcon to Humbug Mountain) is projected to recover substantially compared to 2008 and exceed the recent five-year average by 5 percent. The Humbug to Horse Mountain area also shows a substantial recovery compared to 2008, however, most of that effort is expected in conjunction with the coho selective fishery that will occur only down to the Oregon/California boarder. California ports in this area will not benefit from that selective coho opportunity, however, about 25 percent of the Humbug to Horse Mountain effort is projected to occur in the Crescent City and Eureka areas during a 10-day opening in late August and early September.

¹ In general the Council manages to meet escapement objectives for salmon that are expected to achieve optimum yields and rebuild depressed stocks.